

Appendix B

Adaptive Management

A. Pollutant-specific Developments

1. Mercury and other metals

Inside EPA 04/11/2003 "States Defend Multi-Media Mercury Control Plan From Industry Criticisms" State environmental commissioners met in Washington April 8 - 10, 2003 for the Environmental Council of States (ECOS) spring meeting appeared ready to pass a draft resolution endorsing the draft multi-media strategy to address mercury releases in the environment. The strategy was developed over the past year by the Quicksilver Caucus, a group of state and EPA officials, and seeks to provide a number of regulatory and management strategies for dealing with mercury. Air emissions of mercury cross jurisdictional boundaries, complicating regulation. The strategy presents an argument for federal oversight over surplus mercury and proposed a way for regulators to set TMDLs for waters impaired by atmospheric deposition of mercury. Numerous industry groups objected.

BNA 06/13/2003 According to EPA's semiannual regulatory agenda published 05/27/2003, EPA intended to issue a final rule in January 2004 to encourage the recycling and better management of cathode ray tubes (CRTs). CRTs contain lead. Also e-waste mention (Hg).

BNA 07/21/2003 Illinois Gov. Rod Blagojevich signed legislation banning the manufacture, sale, distribution, manufacture, and promotional use of mercury fever thermometers beginning July 1, 2004. Exceptions include button-cell batteries and fluorescent light bulbs. Through IEPA's Mercury Initiative, it has assisted more than 50 schools in removing mercury-containing devices and other hazardous materials.

BNA 08/01/2003 France ratified a United Nations Economic Commission for Europe for Europe protocol July 25 that bans or restricts 16 polluting substances, POPs. France was the 16th nation to ratify, the protocol will officially be enacted 90 days after France formally notified the UN of its ratification. The protocol amends the 1979 United Nations Convention on Long-range

Transboundary Air Pollution. The Stockholm Convention on Persistent Organic Pollutants (final in Sweden in May 2001) not ratified yet.

BNA 10/3/2003 EPA finalizes implementation plan for commercial and industrial solid waste incineration units burning nonhazardous wastes. Only six states have approved plans to implement the December 2000 standards; other states and tribal lands will be subject to EPA's implementation plan. The standards were designed to reduce emissions of lead by 62 percent, mercury by 34 percent, particulate matter by 71 percent, and sulfur dioxide by 72 percent from existing units. Most of the affected units are expected to install wet scrubbers.

Tannery Bay cleanup on mlive.com
"Cleaned Tannery Bay to be Tested" 08/26/2003
by Susan K. Treutler, Chronicle Staff writer

"MMSD Commission enhances efforts to reduce mercury pollution to Lake Michigan, food chain" February 4, 2004 press release. Milwaukee Metropolitan Sewerage District Commissioners approved a program with dentists to prevent mercury pollution from reaching Lake Michigan. Dental offices are the largest source of mercury discharges to wastewater treatment plants, which are not designed to remove mercury from sewage. Dental amalgam used for fillings is 50 percent mercury. Waste amalgam vacuumed from dental work is delivered to the sewer system unless an amalgam separator is used. MMSD's new program will require approximately 500 dentist offices in MMSD's service area to install amalgam separators. The program was developed by the Department of Natural Resources, the Wisconsin Dental Association, and MMSD. Amalgam separators are available commercially and range in price from several hundred to several thousand dollars for purchase. Dental offices will have until February 2008 to install the devices.

BNA 02/05/2004 Air Pollution "Regional Campaign Announced to Limit Mercury-Containing Products, Emissions" The National Caucus of Environmental Legislators (NCEL)

announced lawmakers in Illinois, Iowa, Michigan, Minnesota, Ohio, and Wisconsin would introduce legislation limiting releases of mercury. In Illinois, S.B. 2551 to create the Illinois Mercury Reduction Act. In Wisconsin, the Legislature has directed the DNR to resubmit tougher rules on mercury emissions from power plants and banned mercury thermostats in new construction projects and to create a plan to enhance awareness of the hazards posed by mercury pollution and increase efforts to reclaim mercury from products headed to landfills.

02/16/2004 Great Lakes Ratio Consortium, "Multi-State Effort Targets Mercury Pollution" The multi-state effort targets coal-fired power plants and products that contain mercury, including thermometers. Wisconsin is looking to enact stricter pollution controls on power plants than what's being proposed in the Nation's capitol. Michigan is calling for a phase-out of products that contain mercury. Michigan and Wisconsin also want mercury parts and switches to be removed from cars and appliances ("white goods") before they are scrapped. A representative of the National Caucus of Environmental Legislators said, "You've got to look at it from all perspectives. Power plants represent 30 to 40 percent of the ambient mercury. But these other sources are significant, especially if they're not controlled properly."

BNA 02/17/2004 The National Electronics Products Stewardship Initiative negotiated for three years and didn't agree upon a way to finance electronics recycling nationally. The group of electronics manufacturers, state and local government officials, and others met in mid-February 2004 to consider an electronic waste recycling plan as a model for national legislation. The recycling plan would allow for a fee at the point of sale or allow companies to create alternative plans to manage costs without a fee on their products. The U.S. EPA had convened and funded the Initiative meetings in 2000. It dropped out when the group failed to produce a plan by the end of 2003. [mercury, heavy metals in e-waste]

2. Pesticides

BNA 07/18/2003 Syngenta's St. Gabriel plant manufactures atrazine. Workers there have

an increased incidence of prostate cancer. The increased incidence could be caused by an effective screening program or by atrazine. Atrazine could not be ruled out as a potential cause. There is an ongoing EPA/National Cancer Institute epidemiological study of 90,000 pesticide applicators and their spouses in North Carolina and Iowa.

BNA 08/01/2003 France ratified a United Nations Economic Commission for Europe for Europe protocol July 25 that bans or restricts 16 polluting substances, POPs. France was the 16th nation to ratify, the protocol will officially be enacted 90 days after France formally notified the UN of its ratification. The protocol amends the 1979 United Nations Convention on Long-range Transboundary Air Pollution. The Stockholm Convention on Persistent Organic Pollutants (final in Sweden in May 2001) not ratified yet.

BNA 08/08/2003 The commonly used herbicide atrazine could cause developmental abnormalities among certain amphibians, but a causal link cannot be demonstrated. June 17-20 meeting of EPA's Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel (SAP). EPA white paper released May 29 examined 17 studies it deemed relevant and concluded that the scientific evidence does not support many of the study authors' conclusions. Additional information is required to evaluate potential causal relationships between atrazine exposure and gonadal development. SAP suggested how to design a conceptual model for standardized studies to examine the possible effects of atrazine on certain frogs. [Http://www.epa.gov/scipoly/sap/2003/june/june meeting report.pdf](http://www.epa.gov/scipoly/sap/2003/june/june%20meeting%20report.pdf)

BNA 09/03/2003 EPA canceled its registration of the organophosphate diazinon, a widely used home and garden insecticide. (Slated for publication 9/3/2003) Syngenta Crop Protection of Greensboro, N.C. Started phasing out the chemical after a December 2000 EPA risk assessment found the insecticide posed risks of concern for residential use, including risks to children post-application. Trade names include Spectracide, D.Z.N., Knox-Out, and Diazol. Stopped manufacture as of June 30, 2003. Existing stocks may be distributed until December

31, 2004. The IRED called for similar cancellations of registrations for agricultural use; Syngenta and Mkhateshim Agan of New York informed EPA in 2000 that they would not support registration for some ag uses.

BNA 10/03/2003 As of October 2, 2003, EPA had completed its review of 6,627 pesticide tolerances as required by the Food Quality Protection Act of 1996. At that time, EPA was on track to complete the nearly 3,000 other pesticide tolerances in need of updating by August 2006. Pesticide tolerances are the amount of residual pesticide that may be present on food. EPA had also completed 457 out of 612 pesticide re-registration eligibility decisions (REDs). REDs are comprehensive reviews required by the Federal Insecticide and Fungicide, and Rodenticide Act amendments of 1988 to determine whether older pesticides may continue to be used and under what conditions.

3. Other organics (e.g., fire retardants, surfactants, PCBs)

BNA 06/09/2003 "More Biological, Exposure Data Sought For Determinations on Flame Retardants" Voluntary Children's Chemical Evaluation Program (VCCEP) meeting June 3-5. 98% of pentabromodiphenyl ethers (PBDE) used in the U.S. go into flexible polyurethane foam. The bulk of octabromodiphenyl ether (OctaBDE) products are added to hard plastic insulation for electrical equipment according to Great Lakes Chemical industrial hygienist Bob Campbell. Some health and toxicity data gaps identified during the meeting will be addressed by Health Canada and the U.S. National Toxicity Program.

BNA 07/10/2003 two negotiated enforceable consent agreements under Section 4 of TSCA for PFOA; work groups; five consumer products; seven types of industrial products http://cascade.epa.gov/RightSite/dk_public_home.htm (using a quick search under docket number OPPT-2002-0012)

BNA 07/18/2003 EPA will ban production and use of chlorobromomethane (CBM), a chlorine-based chemical used as a **fire retardant** and solvent because it harms the stratospheric ozone layer. Class I substance under the Clean Air Act after amendment due to the Montreal

Protocol on Substances that Deplete the Ozone Layer. Most common uses fire extinguishers, as an explosion protection agent; also used as a feedstock for the production of pharmaceuticals, water treatment chemicals, and **biocides**. Trade in CBM with countries that are not party to the protocol is banned. Extremely limited production is allowed for laboratory applications.

BNA 10/02/2003 Two Paper Companies to Spend \$60 Million To Clean up Area of Contaminated Fox River. P.H. Glatfelter Co. and WTM I Co., two paper companies responsible for the Fox River contamination, agreed to dredge contaminated sediments from the uppermost 6-mile portion of the river, according to the DOJ (U.S. v. P.H. Glatfelter Co., E.D. Wis., 03-C-0949, 10/01/2003). It's one of five areas.

BNA 08/26/2003 **Fifth Annual Workshop on Brominated Flame Retardants in the Environment** Between 5 percent and 30 percent of the weight of plastics can be attributable to flame retardant chemicals. Lower brominated forms more persistent and toxic. At Dioxin 2003, Jon Manchester-Neesvig presented what he said was the first information on levels of PBDE in sediments from Lake Michigan. PCB levels still exceed PBDEs. PBDEs have been accumulating in the sediments in Lake Michigan since the mid-1980s.

BNA 08/26/2003 William Telliard, analytical methods director in EPA's office of Science and Technology (part of Office of Water) announced the release of a draft EPA method to detect PBDEs in water, sediment, soil, sludge, and tissues—EPA Method 1614. Spoke at the **Fifth Annual Workshop on Brominated Flame Retardants in the Environment; organized by CDC**. Hope of issuing a final EPA approved method in 2004.

BNA 08/26/2003 researchers focusing on PBDE, hexabromocyclododecanes (HBCDD) and tetrabromobisphenol A, but many more flame retardants on the market Dioxin 2003/Fifth Annual meeting

BNA 09/02/2003 CDC/NECH to measure levels of perfluorinated compounds in the U.S. population. NCEH laboratory developed methods to detect 17 perfluorinated compounds. May test blood samples from 1999 and 2000 or may begin in 2003 and 2004 NHANES. The

compounds are found in many pieces of laboratory equipment. (from Dioxin 2003)

BNA 09/05/2003 Flame Retardant Chemicals; Bromine Science and Environmental Forum (manufacturers); mention of PBT FR in 1999 (64 FR 60,194); Toxicological Risks of Selected Flame-Retardant Chemicals, a report the National Academies issued in April 2000.

BNA 10/24/2003 John Dingell (D-Mich.), Rep., Hilda Solis (D-Calif) drafting legislation for introduction later in October 2003 to phase out use of pentabromodiphenyl ether (penta-PBDE) and octa-BDE. European Union and California will ban penta-BDE and octa-BDE by 2004 and 2008, respectively. EPA's Voluntary Children's Chemical Evaluation Program (VCCEP) initiated in June 2001 examining several PBDEs (penta, octa, and deca). EPA submitted a letter to the Centers for Disease Control recommending the inclusion of PBDEs to the National Health and Nutrition Examination Survey (NHANES) as a potentially harmful substance that should be biomonitoring.

BNA 02/17/2004 The National Electronics Products Stewardship Initiative negotiated for three years and didn't agree upon a way to finance electronics recycling nationally. The group of electronics manufacturers, state and local government officials, and others met in mid-February 2004 to consider an electronic waste recycling plan as a model for national legislation. The recycling plan would allow for a fee at the point of sale or allow companies to create alternative plans to manage costs without a fee on their products. The U.S. EPA had convened and funded the Initiative meetings in 2000. It dropped out when the group failed to produce a plan by the end of 2003.

BNA 09/12/2003 In 2000, 3M announced that it would phase out by the end of 2002 a \$300-million line of Scotchguard (TM) and other products due to the environmental persistence of perfluorooctanyl chemicals. Chemicals with 8 carbon atoms are known as 8-carbon chain chemicals which could degrade to perfluorooctyl sulfonate (PFOS), a persistent chemical. 3M notified EPA of environmental concerns such as potential developmental, reproductive, and systemic toxicity. In 2002, EPA issued a significant new use rule pursuant to TSCA (SNUR, 12/9/2002, 67 FR 72,854; see 03/11/2002 letter from Charlie

Auer of CCD/OPPTS) to allow EPA to review these 8-carbon chain chemicals before they were manufactured by someone other than 3M. 3M has replaced PFOS in carpet treatments and industrial surfactants with 18 chemicals based on perfluorobutane sulfonate (PFBS). While PFOS can persist and bioaccumulate by binding to protein, bioconcentration studies of PFBS indicate its safety. EPA proposed a different SNUR on March 11, 2003 identifying the types of data EPA wants for any potential substitutes for perfluorinated chemicals.

BNA 10/28/2003 EPA's Chemical Control Division working on an enforceable consent agreement with telomer manufacturers on research to be conducted to determine whether telomers break down into perfluorooctanoic acid (PFOA). Fluorinated telomers used as oil, stain, grease, and water-repellant coatings on carpet, textiles, and paper. The Telomer Research Panel consists of DuPont, Clariant GmbH, Asahi Glass, and Daikin America Inc.

proposed water quality criteria for nonylphenol (01/05/2004 Notice of Availability of Draft Aquatic Life Criteria Document for Nonylphenol and Request for Scientific Views, 69 FR 340;)

Federal limits on air pollution from oceangoing ships, including oil tankers, container ships, and cruise ships. **[PAHs, soot]**

The OilSpot News by DTN Energy March 8, 2004 "EPA Report Shows Manufacturers Meeting 2007 Deadline, New Diesel Engines to Cut Smog Causing Emissions" Engine manufacturers are on target to introduce new cleaner diesel engines in 2007. With clean low-sulfur diesel fuel . . . All manufacturers will use diesel particulate filters that reduce PM by more than 90 percent. NO_x control will rely on proven technologies in existence today with early engine prototype testing in 2005. These new engines will operate on 15 ppm **sulfur** diesel fuel in order to reduce NO_x emissions by 50 percent and **PM** [PAHs on soot] emissions by more than 90 percent. In October 2003, EPA published its "Summary and Analysis of the 2003 Highway Diesel Fuel Pre-Compliance Reports" showing that production of low sulfur diesel will be sufficient for a nationwide supply on time.

NEW nonpoint Pollution rule in Wisconsin

4. Nutrients, Pathogens, and Sediments

"DNR bashed over MMSD deals: Agreements fail to stop duming, provide for fines, environmental groups say" by Steve Schultze from <http://www.jsonline.com/news/metro/jul02/62639.asp>, accessed 08/02/2002 "MMSD dumped about 13 gallons of untreated storm and sanitary waste from combined sewers and about 900 million gallons of more concentrated sanitary waste from late 1994 through 2001. This year, the district dumped another 25 million gallons of raw sewage, gave only partial treatment to 95 million gallons in April and dumped 21 million gallons of partially treated sewage in June."

"Residents decry harbor dredging" 08/12/2002 published at <http://www.indystar.com> (Accessed 08/13/2002) Citizens fearful of health effects from dredging the Indiana Harbor and Shipping Canal. Sediments to be dredged contain oil, grease, lead, chromium, ammonia, and polychlorinated biphenyls. \$247 million dredging project decades in the making. Preliminary construction at the holding site began spring 2002. Dredging to begin in 2005 and end in 2035. An estimated 4.6 million cubic yards of the dredged, polluted sediments will be stored at an open-air landfill.

BNA 07/23/2003 EPA approved some test methods for bacterial contaminants in fresh water (test methods 1622 and 1623) through a final rule published 07/22/2003 (68 FR 43,272). Its similar to the rule proposed in August 2001 (66 FR 45,811). Validated test methods for bacterial contaminants in wastewater are expected by the end of 2004. EPA established numeric water quality criteria for E. coli and enterococci and is considering criteria for cryptosporidium and giardia, gastrointestinal.

New Elevation Derivatives for National Applications (EDNA) Lake Michigan Viewer – 11/06/2003 E-mail from Judy Beck/Naomi Detenbeck/Susan Greenlee. TMDL potential? See 03/09/2004 E-mail sent.

03/09/2004 E-mail from Susan Greenlee to Sue Brauer: Currently we are finishing up some of the deliverables for Naomi for this year related to

the Lake Mich EDNA database and web presence. The IAG we (USGS) have with EPA actually concluded last year. Here at EDC we have some base funding to do modeling with EDNA this year. Hopefully that will continue into the future, but we never know for sure. Kris Verdin (cc'd) and I will be going to the AWRA meeting in Nashville in May 2004 and plan to present some of the current accomplishments with EDNA along with what we see as potential future plans. We would like to develop partnerships to use EDNA, and also to move EDNA to a higher resolution (10m and 3m lidar resolution), bring EDNA into better agreement with NHD, and evolve the data structure to handle divergent flow. We certainly see many ways where these activities could benefit EPA and would like to continue the dialogue about EDNA's future.

B. Ongoing Chemical Screening Programs and Lists

Commission of the European Communities (CEC) White Paper Strategy for a future Chemicals Policy (presented by the Commission), Brussels, 02/27/2001 (32 p.). Regarding REACH model –registration, evaluation and authorization/rapid restriction of chemicals.

BNA 08/12/2003 new regulatory scheme REACH study by Risk & Policy Analysts Ltd. released July 29. European Commission released draft legislation in May for a public comment period. Manufacturers would have to register, evaluate, and obtain authorization for their products.

the development/disintegration of the European Union's legislation for registration, evaluation, authorization of chemicals (REACH). As initially proposed, chemical products were to undergo extensive testing to prove products are not a threat to public health and environment. (BNA 10/30/2003) Chemical intermediates are not included. Of 20,000 chemicals produced in the European Union in volumes of 1 - 10 tons, these are only 0.1 percent of total volume manufactured there annually.

Inside EPA 08/09/2002 "EPA Forming Toxics Panel to Reshape Strategy in Face of New Data"

EPA's toxics office is forming an advisory panel to guide the agency as it deals with a deluge of new chemical hazard information from ongoing testing programs, the toxics advisory committee (slated for fall 2002). HPV and VCCEP and "Information Update Rule Amendments" (Inventory Update Rule?).

BNA 07/16/2003 NTP conducts research on behalf of agencies that are a part of the Department of Health and Human Services. National Toxicology Program's Interagency Committee for Chemical Evaluation and Coordination. substances nominated for toxicological studies, FR notice scheduled for publication 07/16/2003. List includes flame retardants (antimony trisulfide, tetrabromobisphenol A and tetrabromobisphenol A (CAS 79-94-7), bis (2,3-dibromopropyl ether (CAS 21850-44-2); acrylamide and glycidamide; cadmium telluride; cedarwood oil, Virginia; dietary supplements (chondroitin sulfate, glucosamine, trans-resveratrol); dimethylethanolamine; tungsten; drugs that have been found to prolong the QT interval; and, nanoscale or tiny materials (asbestos-like?)

OECD report on PFOS

The Safe Drinking Water Act (SWDA) federal program maintains a contaminant candidate list. See 63 FR 10274, 3/2/98.

BNA 08/15/2003 August 18 - 20, 2003 EPA's Endocrine Disruptor Methods Validation Subcommittee to meet re: *White Paper on Species/Strain/Stock in Endocrine Disruptor Assays* outstanding question: Which animal model will provide the most appropriate data on the ability of the test chemical to interact with the endocrine system in order to predict the effects of endocrine-active chemicals in humans, and/or other species of concern? Subcommittee is part of EPA's National Advisory Council for Environmental Policy and Technology.

02/09/2004 BNA Toxic Substances "EPA Issues Schedule of Reviews, Meetings For Chemicals in Health Effects Database" See February 9, 2004 Fed. Reg. Ids 58 chemicals on which EPA is already working to update health effects information in IRIS. EPA plans to add new or update information on all of these substances

by September 30, 2005. PFOA, PFOS, PBDE, and refractory ceramic fibers are included in the 58. On Feb. 2, EPA released draft toxicological reviews for three compounds-1,2-dichlorobenzene, 1,3 dichlorobenzene, and 1,4-dichlorobenzene. Public peer review sessions held in February 2004 for these three and toluene. Four chemicals identified w/ reasons why selected as new in FY 2004: 1,2-dichloroethylene; 1,4-dioxane, ethyl tertiary butyl ether, and lead. Ten chemicals that are complex and will take a long time include: ammonium perchlorate, inorganic arsenic, asbestos, methyl tertiary butyl ether, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). IRIS is not focusing on pesticides due to the Office of Pesticide Programs' evaluation.

C. Adaptive Management on the Horizon

BNA 07/16/2003 Infant respiratory problems may be caused by chlorophenoxy herbicides used on wheat. [ongoing pesticide studies]

BNA, 10/22/2003 new advisory committee called the National Pollution Prevention and Toxics Advisory Committee, chartered by Congress to develop consensus advice on a wide range of issues with which OPPT deals. It consists of representatives of states, a tribe, environmental organizations, children's health advocates, the chemical industry, academic scientists, and an animal welfare organization. Lynda Knobloch of Wisconsin's Dept. of Health and Family Services is one of three state and tribal representatives.

BNA 10/02/2003 The Science Advisory Board's Executive Committee approved, with some modifications, a draft report developed by another SAB committee. The draft report evaluated EPA's *Supplemental Guidance for Assessing Cancer Susceptibility Resulting from Early-Life Exposure to Carcinogens*. SAB's Supplemental Guidance for Assessing Cancer Susceptibility Review Panel concurs with the Agency's overall approach. There is sufficient evidence to support a broader conclusion that chemicals and other substances that cause cancer in ways other than by mutating genes also may pose a greater risk if the exposure occurs at a young age. A final version together with a final

Guidelines for Carcinogen Risk Assessment should be published by early 2004.

BNA 10/02/2003 The Committee to Advise on Reassessment and Transition (CARAT) was established in 2000 to help the agencies, the agricultural industry, and others through a transition toward tougher pesticide safety requirements under the Food Quality Protection Act of 1996. On October 1, the CARAT work group finalized a series of recommendations on safer and more efficient pest management techniques, including better coordination between EPA and USDA.

BNA 08/26/2003 Watershed approach to permitting and TMDL draft implementation guidance 08/25/2003, 68 FR 51011. <http://cfpub.epa.gov/npdes/wqbasedpermitting/wspermitting.cfm> Water quality trading (EWI), numerous challenges including extra time and coordination needed to bring multiple interest groups to the process and the integration of nonpoint sources of pollution, conflicting jurisdictional requirements such as differences in timing or permit provisions (e.g., reconciling schedules for stormwater or CSO controls that differ under existing permits)

Mlive.com July 17, 2003 "EPA wrong choice to lead \$6 billion cleanup of Great Lakes, say experts" by Sarah Kellogg, Washington Bureau, Booth Newspapers copyright 2003 Michigan Live [Legacy Act]

Geographic variation in blood plasma protein concentrations of young herring gulls (*Larus argentatus*) and Caspian terns (*Sterna caspia*) from the Great Lakes and Lake Winnipeg (Grasman et al) *Comparative Biochemistry and Physiology Part C* 125 (2000) 365-375. PCB and DDE associated positively and negatively with alpha and beta globulin levels.

BNA 10/30/2003 Taconite rule cuts emissions 42 percent; critics say controls on mercury lacking (what about asbestos?)

Milwaukee Journal Sentinel online last updated October 21, 2003: Aesthetic impairment due to condom slick from Milwaukee Metropolitan Sewerage District.

BNA 08/28/2003 Sound bites from Dioxin 2003

BNA 07/09/2003

New York Times 12/14/2000 "Modified-Crop Studies Are Called Inconclusive" by Carol Kaesuk Yoon. Scientists still know little about the likelihood even of the environmental threats of most concern.

Inventory Update Rule

The Environmental Protection Agency (EPA) promulgated a rule in 1986, often referred to as the Inventory Update Rule (IUR), for the partial updating of the Toxic Substances Control Act (TSCA) Chemical Inventory data base. The rule requires manufacturers and importers of certain chemical substances included on the TSCA Chemical Substances Inventory to report current data on the production volume, plant site, and site-limited status of these substances. Reporting under the Inventory Update Rule takes place at four-year intervals which began in 1986.

Every four years, chemical manufacturers and importers provide EPA with the relevant information pertaining to their most recent fiscal year. Manufacturers and importers of chemicals already on the TSCA Inventory which are being produced at one plant site or imported at production volume levels of 10,000 or more pounds must report, unless either their chemical is excluded from the IUR or they fall under the Small Business exemption. Please note that there are exceptions to the normal exemptions both for chemicals and small businesses. The coverage of reporting and the exemptions are described in the instruction manual and the regulations at 40 CFR 710.23 et seq.

The 2002 annual reporting year begins on August 23, 2002 and concludes on December 23, 2002.

IUR Federal Register Notices - Requirements for reporting under the IUR have been published for each of the five reporting periods: 2002, [1998](#) (PDF Format 35KB), [1994](#) (PDF Format 32KB), 1990, and 1986. These rules are promulgated under the authority of Section 8(a) of TSCA, and are codified in Subpart B, Part 710, Title 40 of the Code of Federal Regulations (40 CFR Part 710).

[end Inventory Update Rule]

Quaternary Research, Volume 54, Issue 3, November 2000, pages 414-422, "Dominance of an ~150-Year Cycle of Sand-Supply Change in Late Holocene Dune-Building along the Eastern Shore of Lake Michigan" by Walter L. Loope and Alan F. Arbogast.

Based on radio-carbon dating of buried soils plotted against a late Holocene lake-level curve for Lake Michigan, these peaks are closely associated with many ~150-yr lake highstands previously inferred from beach ridge studies. The modern dune landscape of the eastern shore is dominated by perched dunes formed during ~150-yr lake highstands over the past 1500 yr.

Geoderma 85 (1998) 255 - 282 "Rates of weathering and chemical depletion in soils across a chronosequence of Lake Michigan sand dunes by John Lichter.

from abstract: "High concentrations of heavy metals in the organic horizon relative to the upper mineral soil indicate atmospheric inputs of industrial pollutants." His data doesn't support this statement.

Aquatic Toxicology Volume 47 (1999) 77 - 92, "Embryotoxicity of Great Lakes lake trout extracts to developing rainbow trout" by Peggy J. Wright, Donald E. Tillit.

Planar halogenated hydrocarbons (PHHs) include polychlorinated dibenzo-p-dioxins, dibenzofurans, and biphenyls. Study investigated embryotoxicity by injecting ("environmental") extracts from whole adult lake trout into two strains of newly fertilized rainbow trout eggs. Lake Michigan lake trout extract was embryotoxic. An additive model of toxicity is appropriate to quantify PHHs in relation to early life stage mortality in fish. Gross lesions characteristic of exposure to PHHs (i.e., yolk-sac edema, craniofacial deformities, and

hemorrhaging) increased in a dose-related manner. The lowest observable adverse effect concentration (LOAEC) for these gross lesions and cumulative mortalities suggests that current concentrations of PHHs in lake trout from Lake Michigan are above a threshold for adverse effects and these compounds may have implications on the lack of recruitment in certain Great Lakes lake trout populations.

compare this to

Fundamental and Applied Toxicology, Volume 30, Issue 2, April 1996, pages 178-186

"Potency of a Complex Mixture of Polychlorinated Dibenzo-p-dioxin, Dibenzofuran, and Biphenyl Congeners Compared to 2,3,7,8-Tetrachlorodibenzo-p-dioxin in Causing Fish Early Life Stage Mortality" by Walker et al

"Data suggest that TCDD-like congeners act via a common mechanism to cause toxicity during trout early development, but may not act strictly additively when combined in a mixture of TCDD- and non-TCDD-like congeners at ratios found in Great Lakes fish. The deviation from additivity, however, is less than the current safety factors of 10-fold commonly applied in ecological risk assessments, providing support for the continued use of a TE additivity model for assessing risk posed by complex mixtures of PCDDs, PCDFs, and PCBs to fish." from abstract

and

Marine Environmental Research Vol. 42, No. 1-4, pp. 129-134 1996 "Rainbow Trout Embryotoxicity of a Complex Contaminant Mixture Extracted from Lake Michigan Lake Trout" by P.J. Wilson & D.E. Tillit

"Sublethal effects in the rainbow trout, such as delayed time to hatch, mild hemorrhaging, and moderate yolk-sac edema, resulted from estimated total PCB exposure as low as 8.8 ng/g, and this may have significant implications on Great Lakes lake trout fry and juvenile mortality." from abstract

[additivity/synergistic effects]

EDSP Chronology

The following graphic depicts the Endocrine Disruptor Screening Program (EDSP) chronology. Click on any of the events to view a brief description of each.
<http://www.epa.gov/scipoly/oscpendo/images/timeline.gif>

August 1996: Statutory Authorities

In August 1996, Congress passed both the Food Quality Protection Act (FQPA) [link to 110 STAT. 1489 PUBLIC LAW 104-170—AUG. 3, 1996] and amendments to the Safe Drinking Water Act (SDWA) [link to <http://www.epa.gov/safewater/sdwa/sdwa.html#96amendments>], both containing provisions calling for the screening and testing of chemicals and pesticides for possible endocrine disrupting effects. These laws required EPA to develop a screening program that uses appropriate validated test systems and other scientifically relevant information to determine if the effect that certain substances have in humans is similar to the effect produced by a naturally occurring hormone.

The Food Quality Protection Act amends the Federal Food, Drug, and Cosmetic Act. Read more about the Federal Food, Drug, and Cosmetic Act Amendments. [link to title 21, chapter 9 of the U.S. Code]

1996: EDSTAC Convenes

The Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC) [link to <http://www.epa.gov/scipoly/oscpendo/edspoverview/edstac.htm>], a federal advisory committee, was formed in 1996 to make recommendations on how to develop the screening and testing program called for by Congress. Representatives from industry, government, environmental and public health groups, worker safety groups, and academia comprised EDSTAC. The members of EDSTAC were tasked with developing consensus-based recommendations for a screening program that would provide EPA with the information needed to make regulatory decisions about chemicals that disrupt the endocrine system.

EDSTAC thoroughly reviewed and discussed the scientific information available about endocrine disruptors and sought the opinion of other experts and members of the public during its 2-years of deliberations. EDSTAC presented its final report to EPA [link to <http://www.epa.gov/scipoly/oscpendo/edspoverview/finalrpt.htm>] in September 1998. Read more about the creation of EDSTAC [link to <http://www.epa.gov/scipoly/oscpendo/edsparchive/keystone.htm>] and its participants.

August 1998: Federal Register Notice - EDSP

EPA outlined the Endocrine Disruptor Screening Program (EDSP), which incorporated many of

EDSTAC's recommendations, in an August 1998 Federal Register Notice [link to <http://www.epa.gov/scipoly/oscpendo/docs/081198frnotice.pdf>]. This notice provides operational details regarding the major elements of EPA's Endocrine Disruptor Screening Program.

December 1998: Federal Register Notice - Proposed Statement of Policy

EPA provided additional details on the Endocrine Disruptor Screening Program (EDSP), including the major elements of the Program and its implementation, in a December 1998 Federal Register Notice [link to <http://www.epa.gov/scipoly/oscpendo/docs/122898frnotice.pdf>].

1999: NRDC Settlement Agreement

EPA and the Natural Resources Defense Council (NRDC) entered into an agreement to settle part of a lawsuit that NRDC filed against EPA regarding implementation of the Endocrine Disruptor Screening Program (EDSP). In the settlement agreement, EPA agreed, among other things, to use best efforts to complete validation of certain screening and testing methodologies that are proposed for use in the program by specific dates, and to use best efforts to start requiring screening and testing of certain chemicals by specific dates.

Read the Signed NRDC Settlement Agreement [<http://www.epa.gov/scipoly/oscpendo/docs/settlement.pdf>].

2000: Report to Congress - EDSP Implementation Progress

EPA presented a Report to Congress in August 2000 [link to <http://www.epa.gov/scipoly/oscpendo/docs/reporttocongress0800.pdf>] summarizing endocrine disruptor issues and describing the Endocrine Disruptor Screening Program (EDSP). EPA also described its progress in implementing the program, ongoing studies relating to endocrine disruptors, and the measures being taken to address animal welfare concerns under the EDSP.

2001: EDMVS Formed

The Endocrine Disruptor Methods Validation Subcommittee (EDMVS) was established under the EPA's National Advisory Council for Environmental Policy and Technology (in accordance with the Federal Advisory Committee Act (5 U.S.C. App. 2 Section 9c)). EDMVS provides technical advice and counsel to EPA on scientific issues associated with the validation of Tier 1 and Tier 2 assays on topics including the development and choice of initial protocols; prevalidation study designs; and validation study designs. All of the study results generated during protocol development, prevalidation and validation will be combined into EDSP method-specific documents suitable for external peer review. External scientific peer review of the EDSP methods will be arranged by EPA through an Agency-approved external scientific peer review panel (63 FR 71542).

Read the EDMVS Mission Statement [link to <http://www.epa.gov/scipoly/oscpendo/docs/revisionmissionstatement.pdf>]

2002: Report to Congress - EDMVS Progress

EPA provided an update on the progress of EDMVS [link to <http://www.epa.gov/scipoly/oscpendo/docs/edmvs/edmvsstatusreporttocongressfinal.pdf>] and described validation processes that incorporated the advice of the EDMVS. It also summarized

recent subcommittee meetings and presented a list of subcommittee members. Read Attachment A to the report [link to <http://www.epa.gov/scipoly/oscpendo/docs/edmvs/edmvsstatusreporttocongressattachmentsfinalpartii.pdf>].

December 2002: Federal Register Notice - Proposed Chemical Selection Approach for Initial Round of Screening

EPA set forth for public comment the Proposed Chemical Selection Approach for Initial Round of Screening [<http://www.epa.gov/scipoly/oscpendo/docs/12-02-frnotice.pdf>] which presents the approach EPA intends to use for selecting the first group of chemicals to be screened in the Agency's Endocrine Disruptor Screening Program (EDSP).

Assay Status Table

<http://www.epa.gov/scipoly/oscpendo/assayvalidation/status.htm>

The assay status table provides information for each of the assays in each stage of the validation process. The assay validation process is composed of five steps:

- Method Development
- Prevalidation
- Validation
- Scientific peer review
- Regulatory acceptance and implementation

Note that information related to scientific peer review and regulatory acceptance and implementation will be posted when it becomes available.

Table has headings "Assay Title" "Assay Development" "Pre-Validation" "Validation"

Assays under consideration at <http://www.epa.gov/scipoly/oscpendo/assayvalidation/consider.htm>

Interagency Testing Committee

<http://www.epa.gov/opptintr/itc/>

Under the Toxic Substances Control Act (TSCA)

EPA Home > Prevention, Pesticides & Toxic Substances > Pollution Prevention & Toxics > Interagency Testing Committee

- ITC Member Organizations
- VISION
- Reports
- Chemicals
- PAIR & 8(d) Information Collection
- Frequently Asked Questions

<http://www.epa.gov/opptintr/itc/itc.ppt>, [accessed 02/18/2004] provides a summary of ITC's statutory responsibilities and activities.

<http://www.epa.gov/opptintr/itc/>

TSCA Interagency Testing Committee (ITC)

In 1976 under the Toxic Substances Control Act (TSCA), the U.S. Congress created the TSCA Interagency Testing Committee (ITC) as an independent advisory committee to the Administrator of the U.S. EPA. The ITC includes 16 U.S. Government Member organizations (see sidebar). The ITC was created to identify chemicals regulated by TSCA for which there are suspicions of toxicity or exposure and for which there are few, if any, ecological effects, environmental fate or health effects testing data. As mandated under section 4(e) of TSCA, the ITC must add these chemicals to the Priority Testing List and recommend them for testing or information reporting in May and November Reports to the Administrator (see sidebar). Chemicals are recommended for testing to meet the data needs of the ITC's 16 U.S. Government Member organizations. The ITC encourages producers and importers of recommended chemicals to voluntarily submit studies to meet these U.S. Government data needs. Since its first meeting on February 5, 1977, the ITC has reviewed thousands of chemicals (see sidebar).

In response to the ITC's recommendations, the U.S. EPA must promulgate TSCA section 8(a) Preliminary Assessment Information Reporting rules and TSCA section 8(d) Health and Safety Data Reporting rules, unless otherwise requested by the ITC (see side bars). In addition when the ITC designates chemicals for testing, the U.S. EPA Administrator is required under TSCA section 4(e)(1)(B) to publish Federal Register notices either to initiate proceeding under TSCA section 4(a) or to provide reasons for not doing so.

This power point presentation is found at

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